

Amendments to the Claims

1. (Canceled)

2. (Canceled)

3. (Canceled)

4. (Previously Presented) A discharging valve assembly for a reciprocating compressor comprising:

a discharging cover coupled with a front frame so as to cover a cylinder in which a piston is inserted;

a discharging valve inserted in the discharging cover, and opening /closing an inner space of the cylinder where gas is compressed; and

an unbalancedly and elastically supporting means elastically supporting the discharging valve so that contact pressure applied to the discharging valve when the discharging valve comes in contact with the contact surface of the cylinder, is unbalanced;

wherein the unbalancedly and elastically supporting means comprises a valve spring whose one side is fixedly coupled with the discharging valve, and whose other side is contactedly supported by an inner side surface of the

discharging cover, and a sloping surface of the discharging cover by which the valve spring is supported; and

the valve spring has different elastic stiffness at both sides from its center.

5. (Previously Presented) A discharging valve assembly for a reciprocating compressor comprising:

a discharging cover coupled with a front frame so as to cover a cylinder in which a piston is inserted;

a discharging valve inserted in the discharging cover, and opening /closing an inner space of the cylinder where gas is compressed; and

an unbalancedly and elastically supporting means elastically supporting the discharging valve so that contact pressure applied to the discharging valve when the valve comes in contact with the contact surface of the cylinder, is unbalanced;

wherein the unbalancedly and elastically supporting means comprises a valve spring whose one side is fixedly coupled with the discharging valve, and whose other side is contactedly supported by an inner side surface of the discharging cover, and a sloping surface of the discharging cover by which the valve spring is supported; and

wherein the sloping surface of the discharging cover slopes on the basis of a contact surface of the cylinder with which the discharging valve is in contact; and

a side of a valve spring with greater elastic stiffness is positioned at a sloping surface side having a nearest distance from the contact surface of the cylinder.

6. (Previously Presented) The discharging valve assembly of claim 4, wherein the sloping surface of the discharging cover slopes on the basis of a contact surface of the cylinder with which the discharging valve is in contact; and one side of a valve spring with smaller elastic stiffness is positioned at a sloping surface side having a furthest distance from the contact surface of the cylinder.

7. (Original) The discharging valve assembly of claim 4, wherein a rotation preventing protrusion for preventing rotation of the valve spring is formed at the sloping surface of the discharging cover.

8. (Previously Presented) A discharging valve assembly for a reciprocating compressor comprising:

a discharging cover coupled with a front frame so as to cover a cylinder in which a piston is inserted;

a discharging valve inserted in the discharging cover, and opening /closing an inner space of the cylinder where gas is compressed; and

an unbalancedly and elastically supporting means elastically supporting the discharging valve so that contact pressure applied to the discharging valve when the valve comes in contact with the contact surface of the cylinder, is unbalanced;

wherein the unbalancedly and elastically supporting means comprises a valve spring whose one side is fixedly coupled with the discharging valve, and whose other side is contactedly supported by an inner side surface of the discharging cover, and a sloping surface of the discharging cover by which the valve spring is supported; and

wherein outer surface of the sloping surface of the discharging cover slopes in response to the sloping surface, and a thickness of a wall formed by the sloping surface of the discharging cover and the outer surface thereof is constant.

9. (Previously Presented) The discharging valve assembly of claim 4, a discharging hole for discharging gas is formed at one side of the discharging

cover where a distance between the contact surface of the cylinder and the sloping surface of the discharging cover, is the nearest.

10. (Previously Presented) The discharging valve assembly of claim 4, wherein the valve spring is a cylindrical coil spring.

11. (Previously Presented) The discharging valve assembly of claim 4, wherein the valve spring is a conical coil spring.

12. (Previously Presented) A discharging valve assembly for a reciprocating compressor comprising:

a discharging cover coupled with a front frame so as to cover a cylinder in which a piston is inserted;

a discharging valve inserted in the discharging cover, and opening /closing an inner space of the cylinder where gas is compressed; and

an unbalancedly and elastically supporting means elastically supporting the discharging valve so that contact pressure applied to the discharging valve when the valve comes in contact with the contact surface of the cylinder, is unbalanced;

wherein the unbalancedly and elastically supporting means comprises a valve spring whose one side is fixedly coupled with the discharging valve, and

whose other side is contactedly supported by an inner side surface of the discharging cover, and

wherein the discharging valve has a compression plane on one side thereof for contacting the cylinder and a sloping surface located on the opposite side thereof by which the valve spring is supported.

13. (Original) The discharging valve assembly of claim 12, wherein the sloping surface of the discharging valve is more than four degrees.

14. (Original) The discharging valve assembly of claim 12, the valve spring has different elastic stiffness at both sides from its center.

15. (Previously Presented) The discharging valve assembly of claim 12, wherein the sloping surface of the discharging valve slopes on the basis of a compression plane of the discharging valve which is in contact with the contact surface of the cylinder; and one side of a valve spring with smaller elastic stiffness is positioned at the sloping surface side having the nearest distance from the compression plane of the discharging valve.

16. (Previously Presented) The discharging valve assembly of claim 14, wherein the sloping surface of the discharging valve is sloped on the basis of a

compression surface of the discharging valve which is in contact with the contact surface of the cylinder; and one side of a valve spring with smaller elastic stiffness is positioned at the sloping surface side having the nearest distance from the compression plane of the discharging valve.

17. (Original) The discharging valve assembly of claim 12, wherein a rotation preventing protrusion for preventing rotation of the valve spring is formed at an one side of an inner side surface of the discharging cover or at one side of the sloping surface of discharging valve.

18. (Original) The discharging valve assembly of claim 12, a discharging hole for discharging gas is formed at one side of the discharging cover where a distance between the sloping surface of the discharging valve and the compression plane of the discharging valve is the nearest.

19. (Previously Presented) The discharging valve assembly of claim 12, wherein the valve spring is a cylindrical coil spring.

20. (Original) The discharging valve assembly of claim 12, wherein the valve spring is a conical coil spring.

21. (New) The discharging valve assembly of claim 4, wherein the different elastic stiffness of the valve spring at both sides from its center is provided by a different number of spring windings at both sides from its center.

22. (New) The discharging valve assembly of claim 5, wherein the greater elastic stiffness at one side of the valve spring is provided by a different number of spring windings at both sides from its center.

23. (New) The discharging valve assembly of claim 8, wherein the valve spring has a different number of spring windings at both sides from its center.

24. (New) The discharging valve assembly of claim 12, wherein the valve spring has a different number of spring windings at both sides from its center.